

Attachment No. 3

Petroleum Storage Tanks

Exhibit D
MERIT ENERGY COMPANY
Facility Name: Karon Gas Plant
TANK EMISSIONS*
2003 Emissions Inventory

<u>Tank</u>	<u>Size</u>	<u>Content</u>	<u>Standing Losses</u> (lbs/yr)	<u>Working Losses</u> (lbs/yr)	<u>Total Losses</u> (tons/year)
TK-1	1000 bbl	crude oil	1474.4	2747.07	4221.47 2.110735
TK-2	1000 bbl	crude oil	1474.4	2747.07	4221.47 2.110735
				Total	4.22147

* Calculated using EPA - CHIEFS Tanks 4.0 Program

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Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification: Karon No. 2 - 1000 bbl tank
City: Bishop
State: Texas
Company: Merit Energy Company
Type of Tank: Vertical Fixed Roof Tank
Description: 2004 EIS

Tank Dimensions

Shell Height (ft): 16.20
Diameter (ft): 21.00
Liquid Height (ft): 7.00
Avg. Liquid Height (ft): 6.00
Volume (gallons): 18,136.76
Turnovers: 21.98
Net Throughput (gal/yr): 398,580.00
Is Tank Heated (y/n): N

Paint Characteristics

Shell Color/Shade: Gray/Light
Shell Condition: Good
Roof Color/Shade: Gray/Light
Roof Condition: Good

Roof Characteristics

Type: Cone
Height (ft): 0.66
Slope (ft/ft) (Cone Roof): 0.06

Breather Vent Settings

Vacuum Settings (psig): -0.03
Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Corpus Christi, Texas (Avg Atmospheric Pressure = 14.7 psia)

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Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)	Vapor Weight. Min.	Vapor Weight. Max.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight.	Basis for Vapor Pressure Calculations
Crude oil (RVP 5)	Jan	69.36	62.47	76.26	73.79	3.4476	3.0202	3.9221	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Feb	71.89	63.83	79.95	73.79	3.6159	3.1009	4.1970	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Mar	76.13	67.15	85.11	73.79	3.9128	3.3054	4.6065	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Apr	80.02	70.64	89.39	73.79	4.2019	3.5321	4.9653	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	May	82.97	73.41	92.53	73.79	4.4330	3.7202	5.2563	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Jun	85.59	75.23	95.94	73.79	4.6457	3.8485	5.5687	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Jul	86.78	75.94	97.62	73.79	4.7456	3.8990	5.7319	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Aug	86.27	75.95	96.58	73.79	4.7027	3.8004	5.6309	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Sep	83.78	74.61	92.96	73.79	4.4981	3.8039	5.2884	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Oct	79.67	70.90	88.44	73.79	4.1755	3.5492	4.8870	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Nov	74.68	67.10	82.26	73.79	3.8091	3.3021	4.3763	50.0000	207.00 Option 4: RVP=5
Crude oil (RVP 5)	Dec	70.59	63.82	77.36	73.79	3.5285	3.1004	4.0025	50.0000	207.00 Option 4: RVP=5

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Emissions Report - Detail Format
Detail Calculations (AP-42)

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	164,6944	219,2736	237,2926	263,8258	290,5409	321,8442	302,8602	248,3593	227,5697	173,6126	148,7225	
Vapor Space Volume (cu ft):	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	
Vapor Density (lb/cu ft):	0.0304	0.0317	0.0340	0.0342	0.0363	0.0381	0.0397	0.0405	0.0401	0.0386	0.0332	
Vapor Space Expansion Factor:	0.1269	0.1541	0.1820	0.2006	0.2136	0.2410	0.2574	0.2426	0.2072	0.1884	0.1498	
Vented Vapor Saturation Factor:	0.3344	0.3337	0.3164	0.3012	0.2800	0.2805	0.2762	0.2780	0.2870	0.3025	0.3222	
Tank Vapor Space Volume												
Vapor Space Volume (cu ft):	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	3,609,0773	
Tank Diameter (ft):	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	
Vapor Space Outage (ft):	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	
Tank Shell Height (ft):	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	
Average Liquid Height (ft):	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	
Roof Outage (ft):	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	
Roof Height (ft):	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	
Roof Slope (ft/ft):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	
Shell Radius (ft):	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	
Vapor Density												
Vapor Density (lb/cu ft):	0.0304	0.0317	0.0340	0.0363	0.0381	0.0397	0.0405	0.0401	0.0386	0.0361	0.0310	
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3,4476	3,6159	3,9129	4,2019	4,4330	4,6457	4,7456	4,7027	4,4981	4,1755	3,5285	
Daily Avg. Liquid Surface Temp. (deg. R):	529,0336	531,5606	535,8005	539,6855	542,6408	545,2552	546,4502	545,9386	543,4516	539,3395	530,2602	
Daily Average Ambient Temp. (deg. F):	55,1500	58,5000	65,5000	72,4500	77,8500	81,9000	84,0500	84,2000	81,0000	73,9000	58,3500	
Ideal Gas Constant R (psia-cu ft/lb-mole-deg R):												
Tank Paint Solar Absorptance (deg. R):	53,4558	53,4558	53,4558	53,4558	53,4558	53,4558	53,4558	53,4558	53,4558	53,4558	53,4558	
Tank Paint Solar Absorptance (Shell):	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	
Tank Paint Solar Absorptance (Roof):	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	
Total Solar Insulation Factor (Btu/sqft day):	865,5006	1,132,3366	1,404,2370	1,598,0890	1,733,8806	1,929,0016	1,987,3793	1,852,2223	1,599,0408	1,367,4337	1,043,1838	
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.1269	0.1541	0.1821	0.2006	0.2136	0.2410	0.2574	0.2426	0.2072	0.1884	0.1498	
Daily Vapor Temperature Range (deg. R):	27,5728	32,2409	35,9201	37,4831	38,2403	41,4065	43,3692	41,5236	36,7055	35,0756	30,3169	
Daily Vapor Pressure Range (psia):	0.9019	1.0961	1.3011	1.4372	1.5301	1.7202	1.8329	1.7305	1.4855	1.3378	1.0742	
Breather Vent Press. Setting Range (psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3,4476	3,6159	3,9129	4,2019	4,4330	4,6457	4,7456	4,7027	4,4981	4,1755	3,5285	
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	3,0202	3,1009	3,3054	3,5321	3,7202	3,8485	3,8980	3,9004	3,8039	3,5492	3,3021	
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	3,9221	4,1970	4,6065	4,9693	5,2503	5,5687	5,7319	5,6309	5,2884	4,8870	4,0225	
Daily Avg. Liquid Surface Temp. (deg R):	529,0336	531,5606	535,8005	539,6855	542,6408	546,2552	546,4502	545,9385	543,4516	539,3395	530,2602	
Daily Min. Liquid Surface Temp. (deg R):	522,1404	523,5004	526,8205	530,3147	533,0807	535,8036	535,8079	535,6262	534,2752	530,5706	523,4918	
Daily Max. Liquid Surface Temp. (deg R):	535,9268	539,6208	544,7606	549,0563	552,2009	555,8068	557,2925	556,5230	552,6279	546,1884	537,0287	
Daily Ambient Temp. Range (deg. R):	19,7000	21,0000	20,4000	18,5000	16,7000	17,0000	18,5000	18,4000	17,4000	20,0000	19,9000	
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.3444	0.3337	0.3164	0.3012	0.2900	0.2805	0.2762	0.2780	0.2870	0.3025	0.3222	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3,4476	3,6159	3,9129	4,2019	4,4330	4,6457	4,7456	4,7027	4,4981	4,1755	3,3939	
Vapor Space Outage (ft):	10,4200	10,4200	10,4200	10,4200	10,4200	10,4200	10,4200	10,4200	10,4200	10,4200	10,4200	
Working Losses (lb):	102,2419	107,2328	116,0430	124,6139	131,4654	137,7733	140,7355	139,4638	123,8308	112,9627	104,6408	
Vapor Molecular Weight (lb/lb-mole):	50,0000	50,0000	50,0000	50,0000	50,0000	50,0000	50,0000	50,0000	50,0000	50,0000	50,0000	
Surface Temperature (psia):	3,4476	3,6159	3,9129	4,2019	4,4330	4,6457	4,7456	4,7027	4,4981	4,1755	3,5285	

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Emissions Report - Detail Format
Detail Calculations (AP-42) - (Continued)

Net Throughput (gal/mo):	33,215.0000	33,215.0000	33,215.0000	33,215.0000	33,215.0000	33,215.0000	33,215.0000	33,215.0000	33,215.0000	33,215.0000	33,215.0000
Annual Turnovers:	21.9764	21.9764	21.9764	21.9764	21.9764	21.9764	21.9764	21.9764	21.9764	21.9764	21.9764
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Maximum Liquid Volume (gal):	18,136,7600	18,136,7600	18,136,7600	18,136,7600	18,136,7600	18,136,7600	18,136,7600	18,136,7600	18,136,7600	18,136,7600	18,136,7600
Maximum Liquid Height (ft):	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000
Tank Diameter (ft):	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000
Working Loss Product Factor:	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Total Losses (lb):	250.7176	271.9273	335.3167	361.9066	395.2912	428.3142	462.5797	442.3240	381.7565	351.4005	286.5753
											253.3632

TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January , February , March , April , May , June , July , August , September , October , November , December

Components	Losses(lbs)		
	Working Loss	Breathing Loss	Total Emissions
Crude oil (RVP 5)	1,474.40	2,747.07	4,221.47